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IS 7370 (1974): Razors, Safety([PGD 14: Consumer Products and Allied Equipments]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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IS : 7370-1974

Indian Standard
SPECIFICATION FOR
RAZORS, SAFETY
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SPECIFICATION FOR RAZORS, SAFETY

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SPECIFICATION FOR RAZORS, SAFETY

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 26 July 1974, after the draft finalized by the Cutlery Sectional Committee had been approved by the Consumer Products and Medical Instruments Division Council.

0.2 This standard is a necessary adjunct to IS : 7371-1974*.

0.3 In preparing this standard, considerable assistance has been derived from the following:

Drg. No. IND/GS/654-1954 Razor, Safety, Holder. Ministry of Defence, Government of India.

C.S..5:1967 Double-Edged Carbon-Steel (Untreated) Safety Razor Blades. Bureau of Ceylon Standards, Sri Lanka.

CAS No. S36: 1972 Safety Razor Blades. Standards Association of Central Africa, Rhodesia.

GG-R-6Q C-1965 Razors, Safety^ and Blades, Razor. Federal Supply Services, U.S.A.

0.4 This standard contains clauses which call for agreement between the purchaser and the supplier and which permit the purchaser, to use his option for selection to suit his requirements. The relevant clauses are 3.1, 3.3, 6.1 and 9.1.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the filial value,- observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2- 1960†. The number of significant places retained in the rounded off value should be the same as that, of the specified value in this standard.

1. SCOPE

1.1 This standard specifies the requirements for safety razors with two-shaving sides.

*Specification for blades, razof, safety.

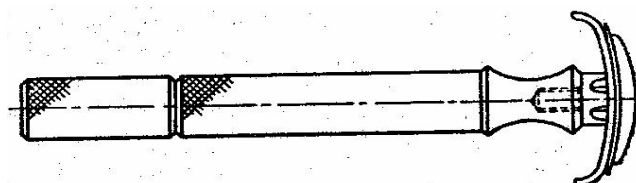
† Rules for rounding off numerical values { *raised*).

2. TY3PES

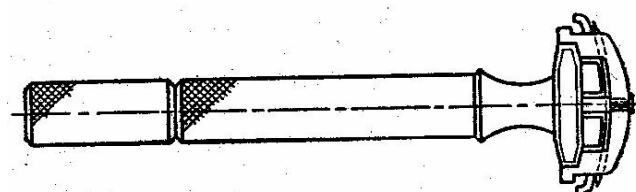
2.1 Razors covered in this standard shall be of the following types:

- a) Separable;
- b) Non-separable, non-adjustable; and
- c) Non-separable, adjustable.

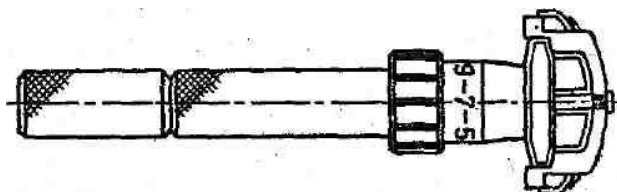
2.1.1 Line sketches of the three types of typical safety razors are given in Fig. 1 for reference.



SEPARABLE



NON-SEPARABLE, NON-ADJUSTABLE



NON-SEPARABLE, ADJUSTABLE

FIG. 1 RAZORS, SAFETY, TYPICAL

3. MATERIALS

3.1 Handle—The razor handle shall be made of non-ferrous corrosion-resistant metal or high-impact heat-resistant plastics or a combination of the two, as agreed to between the purchaser and the supplier.

3.2 Cap — The cap shall be made of non-ferrous corrosion-resistant metal.

3.3 Guard —The guard shall be made of non-ferrous corrosion-resistant metal or high-impact heat-resistant plastics, as agreed to between the purchaser and the supplier.

4. DESIGN, CONSTRUCTION AND WORKMANSHIP

4.1 Safety razors shall have two shaving sides and shall accommodate safety razor blades conforming to IS: 7371-1974*. When assembled with the blade it shall be evenly balanced- The blade alignment pattern shall be of bar, pin or end located style in accordance, with Fig. 2. The handle shall be knurled, grooved or serrated to provide a firm grip when used in a manner consistent with normal use. The length of the handle shall be between 70 and 125 mm and the diameter between 6 and 15 mm measured on the largest cross section. The razor design shall provide for proper positioning of the blade conforming to IS: 7371-1974* for satisfactory shaving. Adjacent to where the blade cuts the whiskers, the razor shall be provided with a guard With the continuous edge to smoothen and tighten the skin in advance of the cutting edge of the blade. Openings shall be provided in the razor adjacent to the cutting edge of the assembled blade to receive lather and whiskers removed from the shaved area and thus prevent clogging of the cutting edge.-

4.2 Threads, wherever used, shall be free running and provide for clamping of the blade in the razor so that it shall not loosen when shaving.

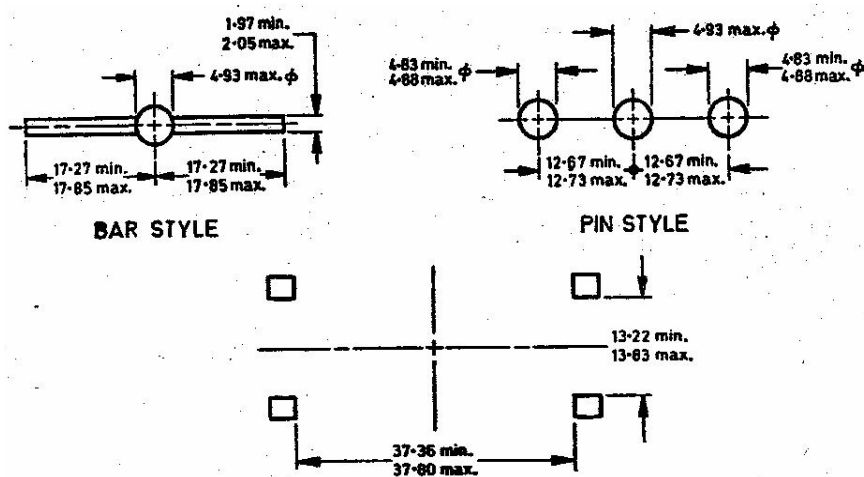
4.3 Hinges, wherever used, or any other parts which may affect the assembly, disassembly or operation of the razor in the normal use, shall be durable, easy to operate and shall maintain the position of the blade during use. '

4.4 In separable type of razors, the blade changing shall be provided by disassembling the razor into three parts, namely, cap, guard and handle.

4.5 Razor shall provide for readily changing the blades without disassembling the razor in case of non-separable, non-adjustable type.

4.6 Non-separable, adjustable type razor shall have adjustment for blade setting and provide for readily changing the blades without disassembling the razor. The razor design shall provide for proper positioning and adjustment of the blade exposure for satisfactory shaving.

♦Specification of blades, razor, safety.



END LOCATED STYLE Alt

dimensions in millimetres

FIG. 2 BLADE ALIGNMENT PATTERN

4.7 AH components of the razor shall be smoothly finished; and serrated-grooved or knurled surfaces, if used, shall not have sharp edges or burrs. The guard shall be parallel to the blade within 0.15 mm when tested as described in 7.1.

5. FINISH

5.1 The components of the safety razor made of non-ferrous metal, except aluminium, shall be plated chromium over nickel and the plating shall conform to Service Grade No. 3 Classification No. C Ni20b Cr r of IS: 4827-1958*. The aluminium components shall be anodized in accordance with Grade AC5 of IS : 1868-1968†.

6. SAMPLING

6.1 The number of safety razors to be selected from a lot for ascertaining conformity to the requirements of this specification shall be as agreed to between the purchaser and the supplier. A suitable sampling scheme and criteria for conformity is recommended in Appendix A.

*Specification for electroplated coatings of nickel and chromium on copper and copper alloys.

† Specification for anodic coatings on aluminium (first revision).

7. TEST

7.1 Parallelism of Blade and Razor Guard — Using a new blade conforming to IS : 7371-1974*, the parallelism of the razor shall be checked by: (a) inserting the blade in the razor, (b) trueing the razor up in either V-blocks or a fixture by levelling the razor by dial indicator gauging the blade on top of both ends of the cutting edge, (c) relocating the dial indicator anvil to obtain a reading on the top of the guard, and(d) moving the dial indicator gauge across the top edge of the guard. The difference, between the minimum and the maximum readings shall not exceed 0.15 mm to comply with 4.7. The test shall be conducted on both shaving sides of the razor.

8. MARKING

8.1 Each razor shall be legibly and indelibly marked either with the manufacturer's name or initials or trade-mark.

8.1.1 The outer package of each razor may also be marked with the ISI Certification Mark.

NOTE —The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

9. PACKING

9.1 The packing shall be in accordance with the accepted trade practices, or as agreed to between the purchaser and the supplier.

A P P E N D I X A

(Clause 6.1)

SAMPLING SCHEME AND CRITERIA FOR CONFORMITY FOR SAFETY RAZORS**A-1. LOT**

A-1.1 All the razors in a consignment of the same type and material and manufactured under relatively similar conditions of manufacture shall constitute a lot.

*Specification for blades, razor, safer)-.

IS : 7370 - 1974

A-1.2 For ascertaining the conformity to the requirements of this specification, inspection and testing shall be carried out separately on each lot.

A-2. VISUAL EXAMINATION

A-2.1 Visual examination shall be made for the defects listed in A-2.2. The scale of sampling and acceptance numbers shall be in accordance with Scale I in Table I. This scale has an AQL of 4*0 for total defects expressed in terms of defects per 100 units.

A-2.2 By visual examination the following classes of defects shall be observed:

- a) Part/component missing, damaged or not of the designated material;
- b) Burrs or sharp edges (see 4.7);
- c) Threads and hinges (when applicable) not free running or easy to operate (see 4.2 and 4.3); and
- d) Missing, incorrect, illegible, incomplete marking (*«8.1 and 8.1.1).

TABLE 1 SCALES OF SAMPLING AND ACCEPTANCE NUMBERS

(Clauses A-2, A-S and A-4)

LOT SIZE No. OF RAZORS IN THE LOT)	SCALE I		SCALE II		SCALE III	
	Sample Size	Acceptance Number (Defects)	Sample Size	Acceptance Number (Defects)	Sample Size	Acceptance Number (Defec- tives)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Up to 50	8	1	5	0	3	0
51 „ 150	13	1	8	0	5	0
151 „ 300	20	2	13	0	8	0
301 „ 500	32	3	20	1	13	0
501 „ 1 000	50	5	32	2	20	1
1 001 and above	80	7	50	3	32	2

A-3. DIMENSIONAL EXAMINATION

A-3.1 Examination shall be made to determine the compliance with dimensional requirements laid down in the specification (*see 4.1 and Fig. 2*). Any dimension not within the specified limits shall be classified as a defect. The scale of sampling and the acceptance numbers shall be in accordance with Scale II in Table 1. This scale has an AQL of 2.5 for total defects expressed in terms of defects per 100 units.

A-4. PARALLELISM OF BLADE AND RAZOR GUARD TEST

A-4.1 This test shall be performed in accordance with the method laid down in the specification (*see 7.1*). The scale of sampling and the acceptance numbers shall be in accordance with Scale III in Table 1. This scale has an AQL of 2.5 expressed in terms of percent defectives.

AMENDMENT NO. 1 SEPTEMBER 1977

TO

IS:7370-1974 SPECIFICATION FOR
RAZORS, SAFETY

Alterations

(Page 6, clause 5.2) • Substitute the following for the existing clause:

5#1 The components of safety razors made of non-ferrous metal, except aluminium, shall be nickel-plated having a thickness of of nickel-plating of 20 microns or more. For other requirements the nickel-plating shall conform to Service Grade Ho. 3 of IS2^827-1968. The aluminium components shall be anodized in accordance with Grade AC 5 of IS:1868-1968+.*

(Page 7, clause 7.t) - Substitute the following for the existing clause:

'7.1 Parallelism of Blade and Razor Guard ~ Using a new blade conforming to IS:7371-1975* the parallelism of the razor shall be checked by (a) mechanical method as described in 7.1.1 or (b) optical method as described in 7.1.2. The difference between the minimum and maximum readings shall not exceed 0.15 mm to comply with 4.7. The straightness of the blade shall first be checked and any deviation, if found, shall be taken into account. The test shall be conducted on both shaving sides of the razor.

7.1.1 The following procedure shall be adopted for mechanical methods

- a) Inserting the blade in the razor*
- b) Trueing the razor up in either V-blocks or a fixture by levelling the razor by-dial indicator* gauging the blade on top of both ends of the cutting edge,
- c) Relocating the dial indicator anvil to obtain a reading on the top of the guard, and
- d) Moving the dial indicator gauge across the top edge of the guard*

7.1.2 The following procedure- shall be adopted for optical method:

- a) Inserting the blade in the razor,
- b) Trueing the blade at both ends under the optical microscope, and
- c) Comparing the edge of the blade with that of the razor guard.'

(CPDC 6)

AMENDMENT NO. 2 JANUARY 1979
TO
IS: 7370-1974 SPECIFICATION FOR
RAZORS, SAFETY

Alterations

[Page 6, clouse 5.1 (see Amendment No. 1)] - Substitute the following following for existing clause:

5.1 The components of safety razors made of non-ferrous metals except aluminjum shall be nickel plated. The plating shall be capable of with-standing the acetic acid salt spray test for minimum 15 hours in accordance IS : 13:6910-1973*. The aluminium components shall be anodized in accordance with Grade AG 5 of IS : 1868-1968†-'

{Page 6, foot-note with ' * ' mark} —Substitute the following for the existing matter:

“* Methods of testing corrosion resistance of electroplated and anodized aluminium *coatings* by acetic acid salt spray test.’

".♦

Addendum

(Page 6, Fig. 2) — Add the following note above the caption of Fig.2:

*NOTE — The thickness of central" bar shall be measured at its lower portion along its length.’

(GSDC6)

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

Quantity	Unit	Symbol
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

Quantity	Unit	Symbol
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

Quantity	Unit	Symbol	Conversion
Force	newton	N	1 N = 1 kg·1 m/s ²
Energy	joule	J	1 J = 1 N·m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V·s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²

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